CLAIMS

I/We claim:

[c1] 1. A mobile device, comprising:

a battery;

a battery charger electrically coupled to the battery; and

an image sensor operably coupled to the battery charger to selectively charge the battery.

[c2] 2. The mobile device of claim 1 wherein the image sensor comprises an array of pixels and a timing/control circuit for controlling the pixels to selectively provide constant current from the pixels to the battery charger.

[c3] 3. The mobile device of claim 1 wherein the image sensor comprises a timing/control circuit and an array of pixels arranged in columns, wherein the timing/control circuit selectively controls the pixels so that multiple pixels in an individual column provide current to the battery charger simultaneously.

[c4] 4. The mobile device of claim 1 wherein:

the image sensor is configured to capture images; and

the image sensor is configured to provide current for charging the battery before and/or after capturing images.

[c5] 5. The mobile device of claim 1 wherein:

the image sensor is configured to capture images; and

the battery powers the image sensor when the image sensor captures images.

[c6] 6. The mobile device of claim 1 wherein:

the image sensor comprises an array of pixels; and

the mobile device further comprises a signal processor and a switch to (a) direct current from the pixels to the signal processor when the image sensor captures images, and (b) direct current from the pixels to the battery charger when the battery charger charges the battery.

[c7] 7. The mobile device of claim 1, further comprising a housing, wherein the battery, battery charger, and image sensor are contained within the housing.

[c8] 8. The mobile device of claim 1, further comprising a camera unit including the image sensor.

[c9] 9. The mobile device of claim 1 wherein the image sensor comprises a color complementary metal oxide semiconductor (CMOS) image sensor.

[c10] 10. A mobile device, comprising:

a rechargeable battery;

a battery charger electrically coupled to the battery; and

an image sensor for capturing images, the image sensor having a plurality of pixels and a timing/control circuit operably coupled to the pixels, wherein the timing/control circuit controls the pixels to selectively provide constant current from the pixels to the battery charger to charge the battery.

[c11] 11. The mobile device of claim 10 wherein the pixels are arranged in columns, and wherein the timing/control circuit selectively controls the pixels so that multiple pixels in an individual column provide current to the battery charger simultaneously.

[c12] 12. The mobile device of claim 10, further comprising a signal processor and a switch to (a) direct current from the pixels to the signal processor when the image sensor captures images, and (b) direct current from the pixels to the battery charger when the battery charger charges the battery.

[c13] 13. A method for operating a mobile device, the method comprising:

capturing an image with an image sensor in the mobile device; and

charging a battery in the mobile device with the image sensor.

[c14] 14. The method of claim 13 wherein charging the battery occurs before and/or after capturing the image.

[c15] 15. The method of claim 13 wherein:

the image sensor comprises an array of pixels and a timing/control circuit for controlling the pixels; and

charging the battery comprises providing constant current from the pixels to the battery charger.

[c16] 16. The method of claim 13 wherein:

the image sensor comprises a timing/control circuit and an array of pixels arranged in columns; and

charging the battery comprises controlling the pixels with the timing/control circuit so that multiple pixels in an individual column provide current to the battery charger simultaneously.

[c17] 17. The method of claim 13 wherein capturing the image comprises powering the image sensor with the battery.

[c18] 18. The method of claim 13 wherein:

capturing the image comprises providing current from a plurality of pixels in the image sensor to a signal processor in the mobile device; and

charging the battery comprises providing current from the pixels to the battery charger.